KCC 4809.4 (K-C 16,733.2)
PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of Beitz, et al. Art Unit
Serial No. 10/768,264
Filed January 30, 2004
Confirmation No. 5948
For PERSONAL CARE ABSORBENT ARTICLE HAVING SPLICED ABSORBENT MATERIAL
Examiner Norca Liz Torres Velazquez

January 20, 2006

DECLARATION OF PRIOR INVENTION UNDER 37 C.F.R. §1.131

We, Mark J. Beitz, Alissa R. Bruss, and Robert J. Makolin, declare as follows:

1. We are the joint inventors of the subject matter claimed in the above-entitled United States divisional patent application, Serial Number 10/768,264.

2. We are also the joint inventors of the subject matter claimed in United States Patent No. 6,863,945, which issued from application Serial Number 10/039,238 filed December 31, 2001. The above-entitled application is a divisional application of and claims priority to application Serial Number 10/039,238. The subject matter of the claims of the divisional application referenced in paragraph 1 above is disclosed in the '238 application from which priority is claimed

3. At the time of filing application Serial Number 10/039,238 and the above-entitled divisional application Serial Number 10/768,264, we were employed by Kimberly-Clark Worldwide, Inc. and have assigned all rights to each of the applications to Kimberly-Clark Worldwide, Inc.

4. We are submitting this Declaration to establish conception of the invention of the subject matter of claim 1 in the United States prior to June 20, 2001, the priority date of WO 02/102665 (Lam et al.), coupled with diligence from prior to such date to the filing date of the '238 application.

5. We were not aware of WO 02/102665 (Lam et al.) prior to the filing of the '238 application.

6. Exhibit A, attached hereto, provides facts and evidence in support of this Declaration. Exhibit A is an invention disclosure form disclosing the subject matter of the present application. Invention disclosures are prepared by inventor/employees of Kimberly-Clark Worldwide, Inc. in the regular course of business. While all dates identified in the disclosure of Exhibit A have been blocked out, each said date is prior to June 20, 2001, the priority date of WO 02/102665 (Lam et al.).

7. We worked with outside counsel in the preparation of the '238 application and received a draft of the application on December 28, 2001. We continued to work with outside counsel to finalize the application for filing on December 31, 2001.

8. We further declare that all statements made herein are of our own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001, and that such

willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Mark J. Beitz — Date

Alissa R. Bruss — Date

Robert J. Makolin — 20 January 2006 Date

Invention Disclosure

Instructions to Submitter:

Send the signed original and one copy of this form to Kimberly-Clark Corporation, Patent Department, Neenah, WI. Answer all parts of this form. Two corroborators must understand the invention. The submitter(s) and both corroborators must sign and date this form immediately following item 15 in blue ink, as well as every additional sheet submitted with it. The last part of this form is recommended when additional sheets are required. If your group has a patent facilitator, preview the original with him or her.

Disclosure No.

Department

Recommended Attorney

For Legal Department use only

PAR Number

Name of Affiliate/Subsidiary/Licensee, if applicable: not applicable

Key Words

Airlaid, Absorbent, Splice, Thermal, Adhesive

1. Title

Usable Splice and Method Thereof for a Stabilized Absorbent

2. Description *(Sign and date each page. Attach pertinent drawings, photographs, block diagrams, flow charts, etc.)*

a. Summary *(Should disclose invention in general, nontechnical terms)*

The invention disclosed describes a method to splice a stabilized absorbent using a lightweight, thermally bondable web of splicing material. The splicing material is characterized with high fluid permeability (for example, a material useful as a diaper liner) which can attach to the stabilized airlaid absorbent thermally. Additional bonding via an adhesive may be helpful to set the thermally bonded splice. The high fluid permeability of the splicing material substrate will allow the splice to be placed in an absorbent product without culling the material. The splicing material would also remain bonded to the stabilized absorbent structure under both wet and dry conditions.

The utility of the splicing material and splicing method is that stabilized airlaid absorbents of suitable basis weight for personal care absorbent products have typically less than 10 minutes of machine run time as cookie rolls. The splicing method described would allow spools, festooned stacks, or cookie rolls to be run without undue process waste when converting the airlaid to personal care products.

b. Detailed description, including specific embodiments and applicable alternatives, ranges and products, and process/apparatus variations.

Definitions:

Stabilized Absorbent: An absorbent material 1) capable of retaining fluid to a saturated capacity of at least about 3 g/g and about 10 g of fluid per 0.1 square meters of material as measured by a 0.5 psi saturated capacity test method and 2) holding together without easily falling apart under either dry or at any level of fluid saturation. Tensile properties have not yet been defined. Examples include airlaid absorbents bonded with a thermally bondable fiber (example: bicomponent sheath/core fibers such as KoSa T-255 or Chisso ESC fibers), airlaid absorbents bonded with dried latex, airlaid absorbents bonded by hydrogen bonding, wetlaid absorbents, or the like. The stabilized absorbent structure may be comprised of any or all of the following materials: Fluff pulp, superabsorbent polymer in the form of particle or fibers, PET fiber, bicomponent fiber, other forms of synthetic or natural fibers, latex, or any other additional material deemed suitable to benefit absorbent performance and/or improved web processing.

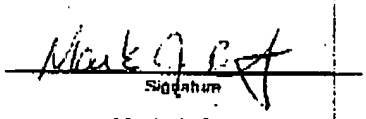
Suitable splicing material: A material having high fluid permeability (to be defined) and the ability to bond to the stabilized absorbent. The splicing material should have the capability to thermally bond to the stabilized absorbent. Alternatively, the splicing material may be adhesively covered to assist the thermal bonding of the stabilized absorbent.

Bonding quality of splice: Qualitatively measured by the ability to remain bonded both wet and dry to a point where the splice can process through a personal care converting line (typically resistant to 0.25 - 3.00 kg of force). More defined quantitative limits should be defined.

Key characteristics of the invention

- The invention splices together a material designed for fluid absorbency. These absorbent materials are generally fibrous in nature and do not have smooth surfaces that readily accept and hold an adhesive.
- The stabilized absorbent substrate to be spliced has less than about 50% polymer content by weight. Specific embodiments of the stabilized absorbent substrate to be spliced may contain as little as 2-5% of polymer content by weight.
- The splice holds acceptably for the use of the product by the end user as well as when converting the absorbent material to a product.
- The splicing material as converted to make the splice has high fluid permeability. The splice material measured alone is preferably more fluid permeable than the absorbent material being spliced together. Alternatively, the absorbent with the splice material attached is about as permeable as absorbent material without the splice material attached.
- A butt splice can be optionally made for better product comfort and processing.

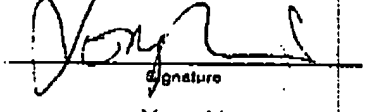
c. How does the invention distinguish from what has been done in the past and what advantages are obtained? Identify related work done by others *(patents, journal articles, etc.)*. Identify other related disclosures of which you may have knowledge, or other work within Kimberly-Clark Corporation within the same area.

Submitter  Signature

Mark J. Beitz

Dept./Location: Infant Care Product Development / WRE Neenah

Signed: Month Day Year

Manager (Review)  Signature

Yong Li

Dept./Location: Infant Care Product Development / WRE Neenah

Signed: Month Day Year

The foregoing signed disclosure was read and understood by me on the date hereinafter set forth.

Corroborator  Signature

Steven P. Jones

Dept./Location: Infant Care Product Development / WRE Neenah

Signed: Month Day Year

Corroborator  Signature

Carl G. Rippl

Dept./Location: Infant Care Product Development / WRE Neenah

Signed: mo.

Prior art search was run in Aurigin Workbench on using the keyword sequence splice* AND (web* OR fabric* OR bat*) AND (nonwoven* OR airlaid* OR absorben*) AND NOT (DNA OR optic*)

US 3,633,352 (Marriner, no assignee

US 4,776,920 and 4,923,546

US 5,514,237 (also EP 0 722 414 B1)

US 5,584,897

EP 0 842 756 A1

WO 00/77286 A1

3. I (We) first conceived the above idea on

4. I (We) first disclosed the above idea to others on

5. The persons to whom the above idea was first disclosed are:

6. The first written description of the above idea is in the form of : and is now located in

7. The first sketch or drawing of the above idea was made on is now located in its number is

8. The first sample/embodiment illustrating the above idea was made on and is now located in its identification number is ----.

9. The above idea was first actually tried on Describe how and when it was tried, including a complete description and date of the first time the idea was tried and, if the first attempt was unsuccessful, the first time it was successfully tried.

Example:

A thermally bonded airlaid absorbent comprised of about 50% superabsorbent polymer, about 45% fluff pulp, and about 5% of KoSa T-255 Merge 351 00A 2.2 dpf bicomponent fiber and having basis weight of about 600 gsm and density of about 0.16 g/cc was cut into two (2) pieces of 83 x 102 mm size. A through air bonded carded web (TABCW) material comprised of 100% Chisso ESC-HR6 3.0 dpf fiber and having basis weight of about 17 gsm was also cut into two pieces of 83 x 102 mm size.

A Carver Press with capability to heat both top and bottom platen was set up to compress a material at 1000 psi for six seconds at a temperature of about 135 C and gap of about 1.88 mm. The

materials described above were arranged to form a butt splice with the TABCW pieces centered on the butt edge formed between the two airlaid absorbant pieces and with one piece of the TABCW on each side of the butt edge formed between the two airlaid pieces. The arranged materials were then wrapped in a paper towel to avoid molten polymer on the platen surface and then pressed under the conditions shown above. The resulting splice of material had a very strong bonding strength in the dry state. n addition, the splice continued to hold after the splice was fully swollen in 0.9% saline.

The same conditions except a two second hold on the Carver Press failed to make a bond.

10. Has consumer or public use testing of this idea been carried out? "Yes," when? Describe testing:

11. Is consumer or public use testing planned for the future? "Yes," when? Describe testing.

12. Has the idea been used in, or to produce, a product or a service that was sold or offered for sale? NO If "Yes," when? How used:

13. Has the idea been disclosed outside Kimberly-Clark Corporation? "Yes," when? ---. To whom:

Describe details surrounding all disclosures.

Was the idea disclosed under Confidential Disclosure Agreement? --- If "Yes," attach a copy of the agreement.

14. Is public or commercial use imminent? . as," indicate the anticipated earliest date of commercial use.

15. List the names of everyone who has contributed to this idea. *(Those listed cannot be corroborators. The listed people should receive a copy of this form.)*

Submitter — Signature — Signed — Month Day Year

Mark J. Beitz — Dept./Location: Infant Care Product Development / WRE Neenah

Manager (Review) — Signature — Signed — Month Day Year

Yong Li — Dept./Location: Infant Care Product Development / WRE Neenah

The foregoing signed disclosure was read and understood by me on the date hereinafter set forth.

Corroborator — Signature — Signed — Month Day Year

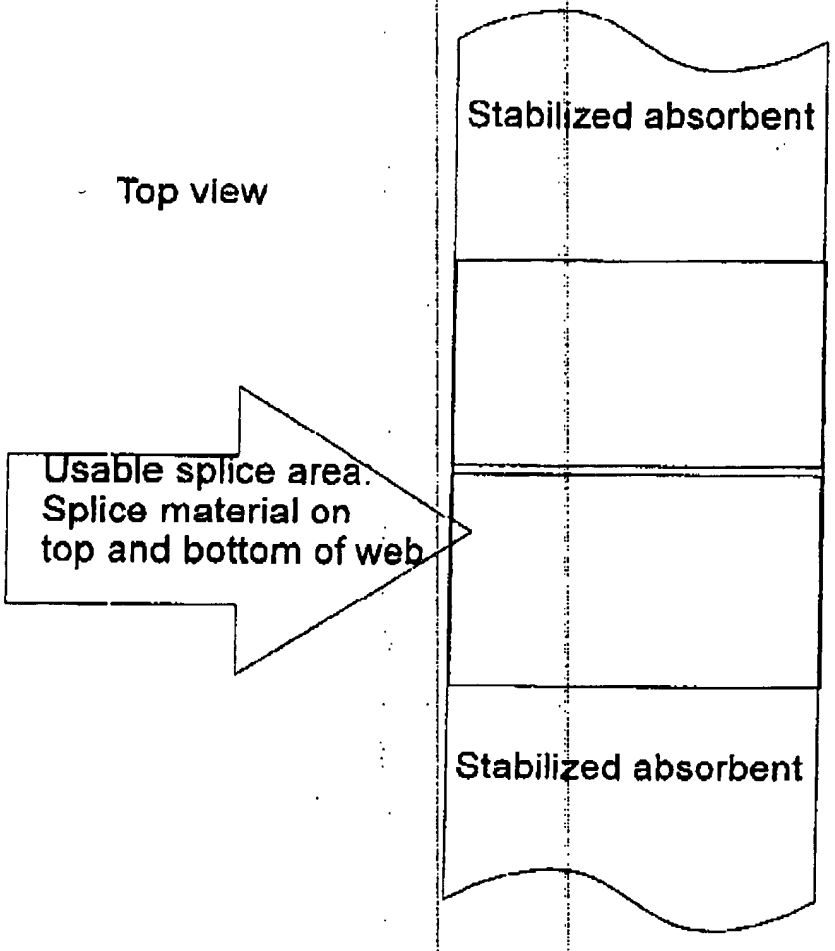
Steven P. Jones — Dept./Location: Infant Care Product Development / WRE Neenah

Corroborator — Signature — Signed

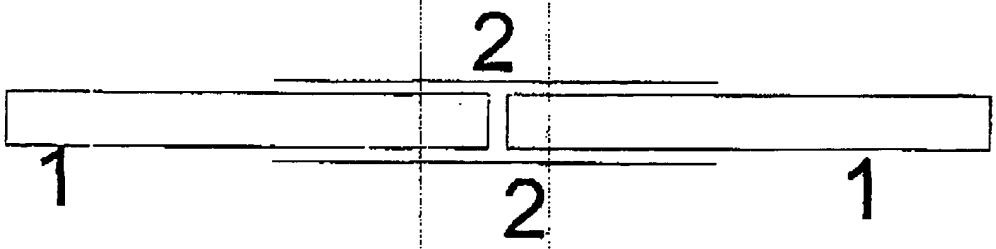
Carl G. Rippl — Dept./Location: Infant Care Product Development / WRE Neenah

Invention Disclosure

Title: Usable Splice and Method Thereof for a Stabilized Absorbent



Side view



1. Stabilized absorbent
2. Splicing material

Submitter Signature Mark J. Beitz — Dept./Location: Infant Care Product Development / WRE Neenah — Signed: Month Day Year

Manager (Review) Signature Yong Li — Dept./Location: Infant Care Product Development / WRE Neenah — Signed: Month Day Year

The foregoing signed disclosure was read and understood by me on the date hereinafter set forth.

Corroborator Signature Steven P. Jones — Dept./Location: Infant Care Product Development / WRE Neenah — Signed: Month Day Year

Corroborator Signature Carl G. Rippl — Dept./Location: Infant Care Product Development / WRE Neenah — Signed: Mo. Year